TEK **Quick Reference** 070-8193-00 Product Group 47

THE 11402A & 11403A

DIGITIZING OSCILLOSCOPE

Please check for CHANGE INFORMATION at the rear of this manual

Tektronix
COMMITTED TO EXCELLENCE

Instrument Serial Numbers

Each instrument manufactured by Tektronix has a serial number on a panel insert or tag, or stamped on the chassis. The first letter in the serial number designates the country of manufacture. The last five digits of the serial number are assigned sequentially and are unique to each instrument. Those manufactured in the United States have six unique digits. The country of manufacture is identified as follows:

B010000	Tektronix, Inc., Beaverton, Oregon, USA
E200000	Tektronix United Kingdom, Ltd., London
J300000	Sony/Tektronix, Japan
H700000	Tektronix Holland, NV, Heerenveen, The Netherlands

Instruments manufactured for Tektronix by external vendors outside the United States are assigned a two digit alpha code to identify the country of manufacture (e.g., JP for Japan, HK for Hong Kong, etc.).

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Contents

Task Reference

This section of the Quick Reference lists common tasks you can perform using the 11402A and 11403A Digitizing Oscilloscopes, and the steps to take to execute each task. Tasks are sorted into groups.

Key to symbols used in this reference:

- a button on the front panel
- a selection from the major menu area
- a selection from a pop-up menu
- an adjustment performed using the knobs

Icons that appear on the display:

Cursors   Window1

DefWfm   Window2

FFTmag   FFTpha

Contents

Basics

Clearing All Settings

UTILITY, Initialize

Checking the ROM Version

UTILITY, Ident, *Read firmware versions in the pop-up menu under FW Vers.*

Engaging Enhanced Accuracy

ENHANCED ACCURACY

Initializing the Scope

UTILITY, Initialize

Removing Pop-Up Menus

Touch anywhere in graticule outside pop-up menu. Alternate: touch highlighted selector that displayed pop-up. Alternate: press any menu button

Setting the Time and Date

UTILITY, Time & Date, *select item to change, adjust using knobs*

Turning On the Scope

Set rear panel Principal Power Switch to ON, Set Standby to ON

Changing the Display

Display Colors (11403A only)

UTILITY, Color, *select color to be set from top of pop-up, then use* Hue, Lightness, *and* Saturation *with knobs. Select next color and continue.* Previous Colors *resets all colors to what they were when the pop-up was first displayed.*

Assigning Colors to Waveforms

Select waveform, UTILITY, Color, Selected Wfm Color *repeatedly until set to desired color. Window waveforms cannot be reassigned*

Resetting Colors

UTILITY, Color, Default Color

Display Intensity (overall)

UTILITY, Color, Overall Intensity, *either knob*

Graticules

Creating a Second Graticule

WAVEFORM, Graticules, Create Second Graticule

Moving Waveforms Between Graticules

WAVEFORM, Graticules, Reduce to Single Graticule

Removing the Second Graticule

WAVEFORM, Graticules, Reduce to Single Graticule

Changing Persistence Mode

WAVEFORM, Horizontal Desc, Normal, Infinite Persist, *or* Variable Persist. *Alternate (11403A, Option 1S only):* EXTENDED FEATURES, Persist/Histograms, Normal, Variable, Infinite , *or* Color Grading *(color grading can be selected only if both the Main and Window record length is set to 512 points)*

Changing Persistence Time

WAVEFORM, Horizontal Desc, Persist Time, *Either knob. Alternate (11403A, Option 1S only):* EXTENDED FEATURES Persist/Histograms, Persist Time, *Either knob*

Clearing Waveforms

Select waveform, WAVEFORM, Remove/Clr Wfm #, Clear Wfm #

Window Operations

Creating a Window

Select source waveform, [Window1] *or* [Window2]

Removing a Window

Select window waveform to delete, Remove/Clr Wfm #, Remove Wfm #

Removing a Waveform

Select waveform to delete, Remove/Clr Wfm #, Remove Wfm #

Acquiring Waveforms

Acquiring with Autoset

AUTOSET *button. Alternate: Probe ID button, if set*

Applying Math Functions to a Waveform

WAVEFORM, Vertical Desc, *as needed then* Enter Desc

Create a New Waveform

DefWfm *and* *as needed (all waveforms). Alternate:* *Input channel (single-channel waveforms only)*

FFT Displays (11403A Only)

Defining an FFT

DefWfm, Page↓, FFTmag(*or* FFTphase(, *select the channel or define an arbitrary waveform,*) *then* Enter Desc. *Alternate: Select the desired waveform, then* FFTmag

Frequency Span/div

↔, *Top knob*

Frequency Resolution

↔, *Bottom knob*

FFT Scaling

UTILITY, Modes, FFT Scaling

FFT Window

UTILITY, Modes, FFT Window

Displaying Waveforms

Changing Vertical Controls

Volts/Div (Vertical Size)

Select waveform, ↕, ◎ *Top knob*

Vertical Position (Offset)

Select waveform, ↕, ◎ *Bottom knob*

Changing Horizontal Controls

Horizontal Position (Main Position)

Select waveform, ↔, ◎ *Bottom knob*

Time/Div (Main Size)

Select waveform, ↔, ◎ *Top knob*

Using Pan and Zoom

Select waveform, ↔, ⊟ Pan/Zoom *to* On, ◎ *Top knob for magnification, Bottom knob for position*

Changing Trigger Settings

Trigger Coupling

▢ TRIGGER, ⊟ Trigger Select (Main or Window) *then* Coupling, ⊟ *select coupling method*

Trigger Level

M or W, ◎ *Top knob. Alternate:* ▢ TRIGGER, ⊟ Level, ◎ *Top knob*

Trigger Holdoff

M or W, ◎ *Bottom knob. Alternate:* ▢ TRIGGER, ⊟ Time Holdoff, ◎ *Bottom knob*

Trigger Source

TRIGGER, Trigger Select (Main or Window) *then* Source Desc, *type description then* Enter Desc

Trigger Slope

TRIGGER, Trigger Select (Main or Window) *then* Slope

Setting Record Length

Main Record Length

WAVEFORM, Horizontal Desc, Main Record Length, *Top knob*

Window Record Length

WAVEFORM, Horizontal Desc, Window Record Length, *Bottom knob*

Labeling Waveforms and Settings

Creating a Label

UTILITY, Label, *select entity to display (first* Displayed Waveforms, Stored Waveforms, *or* Stored Settings, *then the entity from the list below), then type label (from key list of* Upper Case, Lower Case, *or* Numbers). Back Space *to correct errors. Touch* Display *to display label.* Exit

Changing or Deleting the Label

UTILITY, Label, *select entity to change or delete (first* Displayed Waveforms, Stored Waveforms, *or* Stored Settings, *then the entity from the list below), then type label (from key list of* Upper Case, Lower Case, *or* Numbers). Back Space *to correct errors or delete text.* Exit

Positioning the Label

Select waveform, UTILITY, Label Displayed Waveforms *then* Position, *to move*

Making a Hardcopy

Setting Hardcopy Parameters

UTILITY, Hardcopy, *as necessary*

Initiating a Hardcopy

HARDCOPY

Aborting a Hardcopy

UTILITY, Hardcopy, Hardcopy Abort

Measurement Functions

Taking Measurements

MEASURE, Measurements, *select measurement*

Taking a Measurement on More than One Waveform

MEASURE, Measurements, *select measurement,* *select measurement,* Measured Waveform *until desired waveform is assigned*

Taking Measurements on Noisy or Jittery Waveforms

Using Histograms (11403A, Option 1S only)

EXTENDED FEATURES, Persist/Histograms, Vertical Histogram *or* Horizontal Histogram

Changing the Size of the Histogram Box—Persist/Histograms, Vertical Limits *or* Horizontal Limits, *Top or bottom knob as needed*

Changing Histogram Scaling—Persist/Histograms, Histogram Scaling

Limiting Acquisitions—Persist/Histograms, Set N Waveform *or* Set N Samples, *Adjust either knob,* Stop N Waveform *or* Stop N Samples

Setting Up GPIB

Mode

UTILITY, GPIB, Mode *as necessary*

Address

UTILITY, GPIB, Address © *to desired address*

Terminator

UTILITY, GPIB, Terminator *as necessary*

Debug

UTILITY, GPIB, Debug *as necessary*

Setting RS-232-C Parameters

Baud Rate

UTILITY, RS232C, *Bottom knob*

Echo

UTILITY, RS232C, *Echo, as necessary*

Stop Bits

UTILITY, RS232C, *Stop Bits, as necessary*

Parity

UTILITY, RS232C, *Parity, as necessary*

Flagging

UTILITY, RS232C, *Flagging, as necessary*

Delay

UTILITY, RS232C, *Delay, Top knob*

EOL String

UTILITY, RS232C, *EOL String, as necessary*

Verbose Mode

UTILITY, RS232C, *Verbose*

Debug Mode

UTILITY, RS232C, *Debug*

Storing Waveforms and Settings

Waveforms

STORE/RECALL, Store Waveform, *select waveform or* Store All

Settings

STORE/RECALL, Store Setting, *select associated menu at bottom of pop-up menu, then* Set Next FPS *and* *either knob, then* Store Next FPS

Using Diagnostics

Self-Test Diagnostics

UTILITY, Self Test

Extended Diagnostics

UTILITY, Extended Diagnostic, Extended Diagnostic *then run desired tests, then* Exit, Exit

Command Reference

This section of the quick reference lists the functions you can perform using the 11402A and 11403A Digitizing Oscilloscopes, and the steps to take to execute each function. Functions are listed in alphabetical order.

Key to symbols used in this reference:

 a button on the front panel

 a selection from the major menu area

 a selection from a pop-up menu

 an adjustment performed using the knobs

Icons that appear on the display:

Cursors   Window1   ↔

DefWfm   Window2   ↕

FFTmag   FFTpha



A to B, intensified zone
see Window

Abort Hardcopy
UTILITY, Hardcopy, Hardcopy Abort

AC Coupling, trigger
TRIGGER, Trigger Select (Main or Window) *then* Coupling, AC

AC Coupling, vertical channel
WAVEFORM, Coupling, *select channel then* AC

Acquiring Time Base Main or Window
WAVEFORM, *observe* Horizontal Desc *status area*

Acquisition, on/off
DIGITIZER *Run/Stop*

Add Waveform
DefWfm *and as needed (all waveforms), then* Enter Desc. Alternate: *Input channel (single-channel waveforms only)*

Address, GPIB
UTILITY, GPIB, Address

Annotation, Measurement
MEASURE, *selector displaying measurement value*

Area, measurements
MEASURE, Measurements, Area+ *or* Area−

Assign Measurement, assigning a measurement to a waveform
MEASURE, Measurements, *select measurement,* *select measurement,* Measured Waveform *until desired waveform is assigned*

Audio Feedback, on/off
UTILITY, Modes, Audio Feedback

Auto Level Trigger Mode
TRIGGER, Trigger Select (Main or Window) *then* Mode, Auto Level

Auto Trigger Mode
TRIGGER, Trigger Select (Main or Window) *then* Mode, Auto

Autoset
AUTOSET *button. Alternate: Probe ID button, if set*

Autoset, set probe ID button
UTILITY, Probes, Wfm Select/New Wfm & Autoset

Autoset, undo
UTILITY, Modes, Undo Last Autoset

Autoset Options, configuring
UTILITY, Modes, Vertical *and* Horizontal

Average, on/off
WAVEFORM, Acquire Desc, Average N

Average, set N
WAVEFORM, Acquire Desc, Set AvgN, *Top knob*

Axis
see Graticule

B Sweep
see Window

Bandwidth Limit
WAVEFORM, BW Limit, *select channel then select limit*

Baseline, default measurement parameter
MEASURE, Stats Comp Test & Def, Default Parameters *then* Baseline *then* *Bottom knob*

Baud Rate, RS-232-C
UTILITY, RS232C, Baud Rate, *Bottom knob*

Beeping, on/off
UTILITY, Modes, Audio Feedback

Brightness
see Intensity

Calculations, waveform
WAVEFORM, Vertical Desc, *as needed then* Enter Desc

Calibrate (internal), oscilloscope
ENHANCED ACCURACY

Calibrate, probes
UTILITY, *Probes, connect probe or input to calibrator and select channel*

Channel Select
Input channel. Alternate: DefWfm, *as needed*

Clear, delete displayed or stored waveform
STORE/RECALL, Delete Waveform, *select individual waveform(s) or* All Waveforms, Delete Selected Waveforms

Clear, waveform data points
STORE/RECALL, Clear Waveform, *as needed. Alternate: Select waveform,* Remove/Clr Wfm #, Clear Wfm #

Coarse, knob resolution
Knob label, Coarse

Color, change waveform assignment
Select waveform, UTILITY, Color, Selected Wfm Color *repeatedly until set to desired color. Window waveforms cannot be reassigned*

Color, default all (11403A only)
UTILITY, Color, Default Color

Color, default one (11403A only)

UTILITY, Color, *select color to be reset from top of pop-up, then* Default Color

Color, set one or more (11403A only)

UTILITY, Color, *select color to be set from top of pop-up, then use* Hue, Lightness, *and* Saturation *with knobs. Select next color and continue.* Previous Colors *resets all colors to what they were when the pop-up was first displayed.*

Color Grading, on/off
(11403A, Option 1S only)

EXTENDED FEATURES, Persist/Histograms, Color Grading. *Note: both Main and Window record lengths must be set to 512 points to use the Color Grading mode.*

Color Grading, display scaling
(11403A, Option 1S only)

EXTENDED FEATURES, Color Grad Scale

Communication parameters

UTILITY, RS232C *or* GPIB, *as needed*

Compare, measurement on/off

MEASURE, Stats Comp Test & Def, Compare Options *then* Compare *(on/off)*

Compare, set measurement reference value

MEASURE, Stats Comp Test & Def, Compare Options *then* Measure Selected Wfm Save as References *or adjust by touching a measurement reference selector in "Adjust References" section, use either knob*

Compensation, probe

UTILITY, Probes, *connect probe or input to calibrator and select channel*

Conditional Acquisition

WAVEFORM, Acquire Desc, %Fill Complete *or* Single Trigger *or* Continuous *or* Average Complete *or* Envelope Complete *or* Both Avg & Env

Contrast, default all (11402A only)
UTILITY, Intensity, Default Contrast

Contrast, default one (11402A only)
UTILITY, Intensity, *select contrast to be reset from top of pop-up, then* Default Contrast

Contrast, overall
UTILITY, Color *(11403A) or* Intensity *(11402A),* Overall Intensity, *either knob*

Contrast, set one or more (11402A only)
UTILITY, Intensity, *select contrast to be set from top of pop-up, knobs. Select next contrast and continue.* Previous Contrast *resets all contrasts to what they were when the pop-up was first displayed.*

Copy
see Hardcopy

Coupling, trigger
TRIGGER, Trigger Select (Main or Window) *then* Coupling, *as needed*

Coupling, vertical channel
WAVEFORM, Coupling, *select channel then select coupling*

Create New Waveform
DefWfm *and as needed (all waveforms). Alternate: Input channel (single-channel waveforms only)*

Cross, measurement
MEASURE, Measurements, Cross

Cursors, across two waveforms
Select first waveform, Cursors, Cursor Type, Split Dots *then selector for second waveform*

Cursors, auto measurement area
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Cursors, setting type
Select waveform, [Cursors], Cursor Type, *select type*

Cursors, turning off
Page to Previous Menu. *Alternate:* WAVEFORM

Cursors, turning on
Select waveform, [Cursors]

Data Interval, default measurement parameter
MEASURE, Stats Comp Test & Def, Default Parameters *then* Data Interval

Date, set
UTILITY, Time & Date, *select item to change,* *knob*

DC Coupling, trigger
TRIGGER, Trigger Select (Main or Window) *then* Coupling, DC

DC Coupling, vertical channel
WAVEFORM, Coupling, *select channel then* DC

Debug Mode, programming
UTILITY, RS232C or GPIB, Debug

Default, measurement parameter
MEASURE, Stats Comp Test & Def, Default Parameters *then select parameter,* *knob*

Define, new waveform
[DefWfm] *and* *as needed (all waveforms). Alternate:* *Input channel (single-channel waveforms only)*

Delay by Events or Time
see Holdoff

Delay, RS-232-C
UTILITY, RS232C, Delay, *Top knob*

Delay, timing measurement
MEASURE, Measurements, Delay

Delayed Sweep
see Window

Delete, displayed or stored waveform
STORE/RECALL, Delete Waveform, *select individual waveform(s) or* All Waveforms, Delete Selected Waveforms

Delete, displayed waveform
Select waveform to delete, Remove/Clr Wfm #, Remove Wfm #

Delete, stored setting
STORE/RECALL, Delete Setting, *select individual settings or* All Settings, Delete Selected Settings

Deskew, probe
UTILITY, Probes, *connect probe or input to calibrator and* *select channel*

Diagnostics, extended
UTILITY, Extended Diagnostic, Extended Diagnostic *then run desired tests then* Exit

Diagnostics, self test
UTILITY, Self Test

Display Intensity, adjustment
UTILITY, Color *(11403A) or* Intensity *(11402A),* Overall Intensity, *either knob*

Display Mode, vector on/off
UTILITY, Modes, Vectored Waveforms

Distal, default measurement parameter
MEASURE, Stats Comp Test & Def, Default Parameters *then* Distal *then* *Top knob*

Dot Cursors
Select waveform, [Cursors], Cursor Type, Paired Dots

Duty Cycle, timing measurement
MEASURE, Measurements, Duty Cycle

Echo, RS-232-C
UTILITY, RS232C, Echo

ECL, Autoset mode
UTILITY, Modes, Vertical

Edge, Autoset mode
UTILITY, Modes, Horizontal

Energy, measurement
MEASURE, Measurements, Energy

Enhanced Accuracy, set auto or manual
UTILITY, Modes, Enhanced Accuracy Mode

Enhanced Accuracy, execute
ENHANCED ACCURACY

Envelope, on/off
WAVEFORM, Acquire Desc, Envelope N

Envelope, set N
WAVEFORM, Acquire Desc, Set EnvN, *Bottom knob*

EOL String, RS-232-C
UTILITY, RS232C, EOL String

Events, delay window trigger by
see Holdoff

Extended Diagnostics
UTILITY, Extended Diagnostic, Extended Diagnostic *then run desired tests then* Exit

Extinction Ratio, amplitude measurement
MEASURE, Measurements, Extinction Ratio

Fall Time, timing measurement
MEASURE, Measurements, Fall

Fast (definition)
Integer waveform computations. See Forced *to force High Prec floating-point computations.*

FFT, magnitude display (11403A only)
DefWfm, FFTmag(, *select channel,*), Enter Desc. *Alternate: Select waveform,* FFTmag

FFT, phase display (11403A only)
DefWfm, FFTphase(, *select channel,*), Enter Desc. *Alternate: Select waveform,* FFTmag, FFTpha

FFT, scaling (11403A only)
UTILITY, Modes, FFTScaling

FFT, window (11403A only)
UTILITY, Modes, FFTWindow

Filter, trigger coupling
TRIGGER, Trigger Select (Main or Window) *then* Coupling, *select desired coupling*

Fine, knob resolution
Knob label, Fine

Flagging, RS-232-C
UTILITY, RS232C, Flagging

Forced, high-precision waveform scaling
UTILITY, Modes, Waveform Scaling *to* Forced *(all new complex waveforms will be High Prec). See High Prec*

Frequency, timing measurement
MEASURE, Measurements, Frequency

Front-Panel Setting
see Setting

Functions, waveform
WAVEFORM, Vertical Desc, *as needed then* Enter Desc

Gain, amplitude measurement
MEASURE, Measurements, Gain

GPIB Parameters
UTILITY, GPIB, *as needed*

Graticule, create second
WAVEFORM, Graticules, Create Second Graticule

Gray Shade, default all (11402A only)
UTILITY, Intensity, Default Contrast

Gray Shade, default one (11402A only)
UTILITY, Intensity, *select contrast to be reset from top of pop-up, then* Default Contrast

Gray Shade, set one or more (11402A only)
UTILITY, Intensity, *select contrast to be set from top of pop-up, knobs. Select next contrast and continue.* Previous Contrast *resets all contrasts to what they were when the pop-up was first displayed.*

Hardcopy, abort
UTILITY, Hardcopy, Hardcopy Abort

Hardcopy, make
HARDCOPY

Hardcopy, set mode
UTILITY, Hardcopy, *as necessary*

High Pass Filter, trigger coupling
TRIGGER, Trigger Select (Main or Window) *then* Coupling, *select coupling*

High Prec (definition)
Floating-point waveform computations. All waveforms using multiplication, division, or certain functions will always be High Prec. Other waveforms can be High Prec — see Forced

Histograms, adjusting limits
(11403A, Option 1S only)
EXTENDED FEATURES, Persist/Histograms, Vertical Limits *or* Horizontal Limits, *either knob as appropropriate*

Histograms, on/off
(11403A, Option 1S only)
EXTENDED FEATURES, Persist/Histograms, Vertical Histogram *or* Horizontal Histogram

Holdoff window trigger by events, establishing
TRIGGER, Window Holdoff Md, Holdoff by Events Triggered from Window

Holdoff window trigger by time, establishing
TRIGGER, Window Holdoff Md, Holdoff by Time Triggered from Window

Holdoff window trigger by time or events, adjusting
, *Bottom knob. Alternate:* TRIGGER, Time Holdoff *or* Events Holdoff, *Bottom knob*

Holdoff, window trigger, removing
TRIGGER, Window Holdoff Md, No Holdoff Triggered from Main

Horizontal Bar Cursors
Select waveform, Cursors, Cursor Type, Horizontal Bars

Horizontal Histograms, on/off
(11403A, Option 1S only)
EXTENDED FEATURES, Persist/Histograms, Horizontal Histogram

Horizontal Magnify
Select waveform, ↔, Pan/Zoom *to* On, *Top knob for magnification, Bottom knob for position*

Horizontal Position
Select waveform, ↔, *Bottom knob*

Horizontal Size
Select waveform, ↔, *Top knob*

Impedance, Signal

WAVEFORM, Impedance, *select channel then select impedance*

Infinite Persistence, on/off (11403A only)

WAVEFORM, Horizontal Desc, Infinite Persist. *Alternate (Option 1S only):* EXTENDED FEATURES, Persist/Histograms, Infinite

Initialize, all default measurement parameters

MEASURE, Stats Comp Test & Def, Default Parameters *then* Initialize Defaults

Initialize oscilloscope

UTILITY, Initialize

Intensified Zone

see Window

Intensity, default all (11402A only)

UTILITY, Intensity, Default Contrast

Intensity, default one (11402A only)

UTILITY, Intensity, *select contrast to be reset from top of pop-up, then* Default Contrast

Intensity, overall display

UTILITY, Color *(11403A) or* Intensity *(11402A),* Overall Intensity, *either knob*

Intensity, set one or more (11402A only)

UTILITY, Intensity, *select contrast to be set from top of pop-up, knobs. Select next contrast and continue.* Previous Contrast *resets all contrasts to what they were when the pop-up was first displayed.*

Inverted Waveform

[DefWfm], – *, then source description then* Enter Desc

Jitter, timing measurement (11403A, Option 1S only)

MEASURE, Measurements, Jitter *(only with Color Grading on)*

Keypad, numeric
Knob label, enter number, magnitude (m for milli, etc.) then Enter

Knob Resolution
Knob label, Coarse *or* Medium *or* Fine

Label, define and display
UTILITY, Label, *select entity to display (first* Displayed Waveforms, Stored Waveforms, *or* Stored Settings, *then the entity from the list below), then type label (from key list of* Upper Case, Lower Case, *or* Numbers*).* Back Space *to correct errors, then* Display, Exit

Label, change or delete
UTILITY, Label, *select entity to change or delete (first* Displayed Waveforms, Stored Waveforms, *or* Stored Settings, *then the entity from the list below), then type label (from key list of* Upper Case, Lower Case, *or* Numbers*).* Back Space *to correct errors or delete text.* Exit

Label, move
Select waveform, UTILITY, Label Displayed Waveforms *then* Position, *to move*

Label, on/off
UTILITY, Label Displayed Waveforms *then* Display, *then* Exit

Label, stored waveform time/date
UTILITY, Modes, Stored Wfm Time/Date *(shows time/date stamp on menu selectors for stored waveforms)*

Left Limit, default measurement parameter
MEASURE, Stats Comp Test & Def, Default Parameters *then* Left Limit, *Top knob*

Level, trigger
M *or* M, *Top knob. Alternate:* TRIGGER, Level, *Top knob*

Level Mode, default measurement parameter
MEASURE, Stats Comp Test & Def, Default Parameters *then* Level Mode

Line Trigger
TRIGGER, Trigger Select (Main or Window) *then* Source Desc, Line, Enter Desc

Low Pass Filter, trigger coupling
TRIGGER, Trigger Select (Main or Window) *then* Coupling, *select coupling*

Main Position
Select waveform, ↔, Bottom knob

Main Size
Select waveform, ↔, Top knob

Main→Win Trigger, timing measurement
MEASURE, Measurements, Main→Win Trig Time

Main, record length
WAVEFORM, Horizontal Desc, Main Record Length, *Top knob*

Mask Testing, clear hits
(11403A, Option 1S only)
EXTENDED FEATURES, Mask Testing, Clear Hits

Mask Testing, creating masks
(11403A, Option 1S only)
EXTENDED FEATURES, Mask Testing, *select a* Mask # *selector, select* Edit Mask Definition, *both knobs to specify a mask point,* Add Point, *add points as necessary,* Exit Mask Editing.

Mask Testing, deleting masks
(11403A, Option 1S only)
EXTENDED FEATURES, Mask Testing, Mask # *for the mask to be deleted,* Delete Mask Definition

Mask Testing, on/off
(11403A, Option 1S only)
EXTENDED FEATURES, Mask Testing, Count Mask Hits

Mask Testing, set N mask hits
(11403A, Option 1S only)
EXTENDED FEATURES, Mask Testing, Mask#, Set N Mask Hits, *either knob*

Mask Testing, set N waveforms
(11403A, Option 1S only)
EXTENDED FEATURES, Mask Testing, Mask#, Set N Waveforms, *either knob*

Mask Testing, stop counting hits after N mask hits
(11403A, Option 1S only)
EXTENDED FEATURES, Mask Testing, Mask#, Stop N Mask Hits

Mask Testing, stop counting hits after N total hits
(11403A, Option 1S only)
EXTENDED FEATURES, Mask Testing, Mask#, Stop N Total Hits *(N is defined by* Set N Mask Hits *value)*

Mask Testing, stop counting hits after N waveforms (11403A, Option 1S only)
EXTENDED FEATURES, Mask Testing, Mask#, Stop N Waveforms

Max, amplitude measurement
MEASURE, Measurements, Max

Mean, amplitude measurement
MEASURE, Measurements, Mean

Measured Waveform, assigning a measurement to a waveform
MEASURE, *select measurement,* Measured Waveform *until measurement is "assigned" to desired waveform*

Measurement, to remove all
MEASURE, Measurements, Delete All

Measurement, to select
MEASURE, Measurements, *select up to six*

Measurement Compare, on/off
MEASURE, Stats Comp Test & Def, Compare Options *then* Compare *(on/off)*

Measurement Compare, set compare value
MEASURE, Stats Comp Test & Def, Compare Options *then* Measure Selected Wfm Save as References *or adjust by touching a measurement reference selector in "Adjust References" section, use either knob*

Measurement Statistics, on/off
MEASURE, Stats Comp Test & Def, Statistics
Note: Main→Win Trig Time measurement has its own statistics control: Main→Win Trig Time, *"Statistics" section*

Measurement Statistics, restart logging
MEASURE, Stats Comp Test & Def, Reset

Measurement Statistics, set N
MEASURE, Stats Comp Test & Def, Statistics N, *either knob*

Medium, knob resolution
Knob label, Medium

Menu, remove pop-up
Touch anywhere in graticule outside pop-up menu. Alternate: touch highlighted selector that displayed pop-up. Alternate: press any menu button

Mesial, default measurement parameter
MEASURE, Stats Comp Test & Def, Default Parameters *then* Mesial, *Top knob*

Mid, amplitude measurement
MEASURE, Measurements, Mid

Min, amplitude measurement
MEASURE, Measurements, Min

Mode, GPIB
UTILITY, GPIB, Mode

Move Waveform to Other Graticule
Select waveform to move, WAVEFORM, Upper Graticule *or* Lower Graticule, Move Waveform to Other Graticule

New Waveform

[DefWfm] *and* *as needed (all waveforms). Alternate:* *Input channel (single-channel waveforms only)*

Noise, amplitude measurement (11403A, Option 1S only)

MEASURE, Measurements, Noise *(only with Color Grading on)*

Noise Filter, trigger coupling

TRIGGER, Trigger Select (Main or Window) *then* Coupling, *select coupling*

Normal Trigger Mode

TRIGGER, Trigger Select (Main or Window) *then* Mode, Normal

Numeric Keypad

Knob label, *enter number, magnitude (m for milli, etc.) then* Enter

Offset, vertical position

Select waveform, ↕, *Bottom knob*

Optional, fast or high-precision waveform scaling

UTILITY, Modes, Waveform Scaling *to* Optional *(new waveforms will be Fast or High Prec depending on calculations invoked.)*

Overshoot, amplitude measurement

MEASURE, Measurements, Overshoot

Pan and Zoom, multiple waveforms

UTILITY, Modes, Multitrace Pan/Zoom, *then use Pan/Zoom as with single waveforms*

Pan and Zoom, set pivot (center of magnification)

UTILITY, Modes, Pan/Zoom Pivot

Pan and Zoom, using

Select waveform, ↔, Pan/Zoom *to* On, *Top knob for magnification, Bottom knob for position*

Parity, RS-232-C
UTILITY, RS232C, Parity

Peak to Peak, amplitude measurement
MEASURE, Measurements, Peak-Peak

Peak to Peak, Pk-Pk Autoset mode
UTILITY, Modes, Vertical

Period, Autoset mode
UTILITY, Modes, Horizontal

Period, timing measurement
MEASURE, Measurements, Period

Persistence Mode, on/off
WAVEFORM, Horizontal Desc, Infinite Persist *or* Variable Persist *to turn on or* Normal *to turn off. Alternate (11403A, Option 1S only):* EXTENDED FEATURES, Persist/Histograms, *as desired*

Phase, timing measurement
MEASURE, Measurements, Phase

Pop-Up Menu, remove
Touch anywhere in graticule outside pop-up menu. Alternate: touch highlighted selector that displayed pop-up. Alternate: press any menu button

Position, horizontal
Select waveform, ↔, ◎ *Bottom knob*

Position, vertical (offset)
Select waveform, ↕, ◎ *Bottom knob*

Pre-Trigger View
Select waveform, ↔, ◎ *Bottom knob*

Probe ID Button, set function
UTILITY, Probes, Wfm Select/New Wfm *or* Wfm Select/New Wfm & Autoset *or* Sequence Settings

Probes, calibrate (deskew, compensate)
UTILITY, Probes, *connect probe or input to calibrator and select channel*

Propagation Delay, timing measurement
MEASURE, Measurements, PropDelay, PropDelay, *select delayed waveform from top of menu*

Proximal, default measurement parameter
MEASURE, Stats Comp Test & Def, Default Parameters *then* Proximal *then* *Bottom knob*

Pulse, Autoset mode
UTILITY, Modes, Horizontal

Pulse Width, timing measurement
MEASURE, Measurements, Width

Recall, stored setting
STORE/RECALL, Recall Setting, *select setting*

Recall, stored waveform
STORE/RECALL, Recall Waveform, *select waveform*

Record Length, set by Initialize
UTILITY, Modes, Init Sets Rec Len To

Record Length, main
WAVEFORM, Horizontal Desc, Main Record Length, *Top knob*

Record Length, window
WAVEFORM, Horizontal Desc, Window Record Length, *Bottom knob*

Reference Level, default measurement parameter
MEASURE, Stats Comp Test & Def, Default Parameters *then* Reference Level *then* *either knob*

Reference Value, for measurement compare

MEASURE, Stats Comp Test & Def, Compare Options *then* Measure Selected Wfm Save as References *or adjust by touching a measurement reference selector in "Adjust References" section, use either knob*

Remove Waveform

Select waveform to delete, Remove/Clr Wfm #, Remove Wfm #

Remove Window

Select window waveform to delete, Remove/Clr Wfm #, Remove Wfm #

Remove, pop-up menu

Touch anywhere in graticule outside pop-up menu. Alternate: touch highlighted selector that displayed pop-up. Alternate: press any menu button

Reset Oscilloscope

UTILITY, Initialize

Reset, all default measurement parameters

MEASURE, Stats Comp Test & Def, Default Parameters *then* Initialize Defaults

Reset, waveform measurement parameters to defaults

Select waveform, MEASURE, Stats Comp Test & Def, Default Parameters *then* Copy Defaults to Sel Wfm

Right Limit, default measurement parameter

MEASURE, Stats Comp Test & Def, Default Parameters *then* Right Limit, *Bottom knob*

Rise Time, timing measurement

MEASURE, Measurements, Rise

RMS, amplitude measurement

MEASURE, Measurements, RMS

RS-232-C Parameters

UTILITY, RS232C, *as needed*

Runs After Delay
TRIGGER, Window Holdoff Md, No Holdoff Triggered from Main

Sample Interval, display
WAVEFORM, Horizontal Desc, *read out at top of pop-up menu*

Save Current Measurement Values as Compare Reference
MEASURE, Stats Comp Test & Def, Compare Options *then* Measure Selected Wfm Save as References

Save Setting
STORE/RECALL, Store Setting, *select associated menu at bottom of pop-up menu, then* Set Next FPS *and either knob, then* Store Next FPS

Save Waveform
STORE/RECALL, Store Waveform, *select waveform or* Store All

Scaling, waveform
UTILITY, Modes, Waveform Scaling. See also *Fast* and *High Prec*

Select Waveform
Touch waveform on display. Alternate: WAVEFORM, Page to All Wfms Status *then select waveform in major menu area*

Self Test
UTILITY, Self Test, *Self Test*

Self Test, extended diagnostics
UTILITY, Extended Diagnostic, Extended Diagnostic *then run desired tests then* Exit

Setting, recall front panel setup
STORE/RECALL, Recall Setting, *select setting*

Setting, sequence to next

STORE/RECALL, Sequence Settings, Sequencing *(set to On) then* Next Setting. *Alternate: press probe button if ID function is set to sequence setting (see Probe ID Button)*

Setting, store front panel setup

STORE/RECALL, Store Setting, *select menu to be stored with setting at bottom of pop-up menu, then* Set Next FPS *and either knob, then* Store Next FPS

Signal Source

DefWfm *and as needed (all waveforms). Alternate: Input channel (single-channel waveforms only)*

Signal/Noise Ratio, default measurement parameter

MEASURE, Stats Comp Test & Def, Default Parameters *then* S/N Ratio, *Bottom knob*

Size, adjust horizontal

Select waveform, ↔, *Top knob*

Size, adjust vertical

Select waveform, ↕, *Top knob*

Skew, timing measurement

MEASURE, Measurements, Skew

Slope, default measurement parameter

MEASURE, Stats Comp Test & Def, Default Parameters *then* Slope

Slope, trigger

TRIGGER, Trigger Select (Main or Window) *then* Slope

Sound, on/off

UTILITY, Modes, Audio Feedback

Source, signal

DefWfm *and as needed (all waveforms). Alternate: Input channel (single-channel waveforms only)*

Source, trigger
TRIGGER, Trigger Select (Main or Window) *then* Source Desc, *type description then* Enter Desc

Split Dot Cursors
Select first waveform, Cursors, Cursor Type, Split Dots *then touch selector for second waveform*

Statistics, on/off
MEASURE, Stats Comp Test & Def, Statistics Options, Statistics
Note: Main→Win Trig Time measurement has its own statistics control: Main→Win Trig Time, *"Statistics" section*

Statistics, restart logging
MEASURE, Stats Comp Test & Def, Reset

Statistics, set N
MEASURE, Stats Comp Test & Def, Statistics Options, Statistics N, *either knob*

Status, waveform
WAVEFORM, Vertical Desc *selector shows some status or* Page to All Wfms Status

Stop Bits, RS-232-C
UTILITY, RS232C, Stop Bits

Store Setting
STORE/RECALL, Store Setting, *select associated menu at bottom of pop-up menu, then* Set Next FPS *and either knob, then* Store Next FPS

Store Waveform
STORE/RECALL, Store Waveform, *select waveform or* Store All

Stored Waveform, recall
STORE/RECALL, Recall Waveform, *select waveform*

Stored Waveform, time/date label

UTILIITY, Modes, Stored Wfm Time/Date *(shows time/date stamp on menu selectors for stored waveforms)*

Terminator, GPIB

UTILITY, GPIB, Terminator

Time, delay window trigger by

see Holdoff

Time, set

UTILITY, Time & Date, *select item to change, adjust using knobs*

Time A→B, timing measurement

MEASURE, Measurements, Main→Win Trig Time

Time/Div

Select waveform, ↔, Top knob

Time Base Position

Select waveform, ↔, Bottom knob

Time Base Size

Select waveform, ↔, Top knob

Time Mode, default measurement parameter

MEASURE, Stats Comp Test & Def, Default Parameters *then* Time Mode

Topline, default measurement parameter

MEASURE, Stats Comp Test & Def, Default Parameters *then* Topline *then Top knob*

Touch Panel, on/off

TOUCH PANEL

Tracking, default measurement parameter

MEASURE, Stats Comp Test & Def, Default Parameters *then* Tracking

Trig After Delay

TRIGGER, Window Holdoff Md, Holdoff by Time Triggered from Window

Trigger Time Delay, timing measurement
MEASURE, Measurements, Main→Win Trig Time

Trigger, AC coupling
TRIGGER, Trigger Select (Main or Window) *then* Coupling, AC

Trigger, auto level mode
TRIGGER, Trigger Select (Main or Window) *then* Mode, Auto Level

Trigger, auto mode
TRIGGER, Trigger Select (Main or Window) *then* Mode, Auto

Trigger, DC coupling
TRIGGER, Trigger Select (Main or Window) *then* Coupling, DC

Trigger, high pass filter coupling
TRIGGER, Trigger Select (Main or Window) *then* Coupling, *select*

Trigger holdoff window by events, establishing
TRIGGER, Window Holdoff Md, Holdoff by Events Triggered from Window

Trigger holdoff window by time, establishing
TRIGGER, Window Holdoff Md, Holdoff by Time Triggered from Window

Trigger holdoff window by time or events, adjusting
W, *Bottom knob. Alternate:* TRIGGER, Time Holdoff *or* Events Holdoff, *Bottom knob*

Trigger, holdoff window, removing
TRIGGER, Window Holdoff Md, No Holdoff Triggered from Main

Trigger, level
M *or* W, *Top knob. Alternate:* TRIGGER, Level, *Top knob*

Trigger, line
TRIGGER, Trigger Select (Main or Window) *then* Coupling, Line

Trigger, low pass filter coupling
TRIGGER, Trigger Select (Main or Window) *then* Coupling, *select coupling*

Trigger, noise filter coupling
TRIGGER, Trigger Select (Main or Window) *then* Coupling, *select coupling*

Trigger, normal mode
TRIGGER, Trigger Select (Main or Window) *then* Mode, Normal

Trigger, single shot
WAVEFORM, Acquire Desc, Single Trigger *(press* DIGITIZER *for each successive acquisition)*

Trigger, slope
TRIGGER, Trigger Select (Main or Window) *then* Slope

Trigger, source
TRIGGER, Trigger Select (Main or Window) *then* Source Desc, *type description then* Enter Desc

Trigger window holdoff by events, establishing
TRIGGER, Window Holdoff Md, Holdoff by Events Triggered from Window

Trigger window holdoff by time, establishing
TRIGGER, Window Holdoff Md, Holdoff by Time Triggered from Window

Trigger window holdoff by time or events, adjusting
Bottom knob. Alternate: TRIGGER, Time Holdoff *or* Events Holdoff, *Bottom knob*

Trigger, window holdoff, removing
TRIGGER, Window Holdoff Md, No Holdoff Triggered from Main

TTL, Autoset mode
UTILITY, Modes, Vertical

Undershoot, amplitude measurement
MEASURE, Measurements, Undershoot

Variable Persistence, on/off
WAVEFORM, Horizontal Desc, Variable Persist. *Alternate (11403A, Option 1S only):* EXTENDED FEATURES, Persist/Histograms, Variable Persist

Vector Mode, display mode on/off
UTILITY, Modes, Vectored Waveforms

Verbose, RS-232-C
UTILITY, RS232C, Verbose

Vertical Bar Cursors
Select waveform, [Cursors], Cursor Type, Vertical Bars

Vertical Offset
Select waveform, ↕, *Bottom knob*

Vertical Size
Select waveform, ↕, *Top knob*

Volts/Div
Select waveform, ↕, *Top knob*

Waveform, calculations and functions
WAVEFORM, Vertical Desc, *as needed then* Enter Desc

Waveform, clear data points
STORE/RECALL, Clear Waveform, *as needed. Alternate: Select waveform,* Remove/Clr Wfm #, Clear Wfm #

Waveform, create new
[DefWfm] *and* *as needed (all waveforms). Alternate:* *Input channel (single-channel waveforms only)*

Waveform, move to other graticule
Select waveform to move, WAVEFORM, Upper Graticule *or* Lower Graticule, Move Waveform to Other Graticule

Waveform, recall stored

STORE/RECALL, Recall Waveform, *select waveform*

Waveform, remove

Select waveform to delete, Remove/Clr Wfm #, Remove Wfm #

Waveform, scaling

UTILITY, Modes, Waveform Scaling. *See also Fast and High Prec*

Waveform, select

Touch waveform on display. Alternate: WAVEFORM, Page to All Wfms Status *then select waveform in major menu area*

Waveform, status

WAVEFORM, Vertical Desc *selector shows some status or* Page to All Wfms Status

Waveform, store

STORE/RECALL, Store Waveform, *select waveform or* Store All

Waveform, vertical description

WAVEFORM, Vertical Desc *(shows some status),* *extend or modify as needed then* Enter Desc

Waveform, XY from two live waveforms

Create and select Y waveform, WAVEFORM, Horizontal Desc, *select X waveform*

Waveform, XY from two stored waveforms

Create and select stored Y waveform, WAVEFORM, Horizontal Desc, *select X stored waveform*

Waveform Color, change assignment (11403A only)

Select waveform, UTILITY, Color, Selected Wfm Color *repeatedly until set to desired color. Window waveforms cannot be reassigned. Note: see Color for more color control*

Waveform Label, define
UTILITY, Label, *select entity to display (first* Displayed Waveforms, Stored Waveforms, *or* Stored Settings, *then the entity from the list below), then type label (from key list of* Upper Case, Lower Case, *or* Numbers). Back Space *to correct errors.* Exit

Waveform Label, change or delete
UTILITY, Label, *select entity to change or delete (first* Displayed Waveforms, Stored Waveforms, *or* Stored Settings, *then the entity from the list below), then type label (from key list of* Upper Case, Lower Case, *or* Numbers). Back Space *to correct errors or delete text.* Exit

Waveform Label, move
Select waveform, UTILITY, Label Displayed Waveforms *then* Position, *then* Exit, *to move*

Waveform Label, on/off
UTILITY, Label Displayed Waveforms *then* Display

Waveform Label, stored waveform time/date
UTILITY, Modes, Stored Wfm Time/Date *(shows time/date stamp on menu selectors for stored waveforms)*

Window Position
Select waveform, ↔, *Bottom knob*

Window Size
Select waveform, ↔, *Top knob*

Window, create new waveform
Select source waveform, [Window1] *or* [Window2]

Window, record length
WAVEFORM, Horizontal Desc, Window Record Length, *Bottom knob*

Window, remove
Select window waveform to delete, Remove/Clr Wfm #, Remove Wfm #

Window, trigger holdoff by events, establishing
TRIGGER, Window Holdoff Md, Holdoff by Events Triggered from Window

Window, trigger holdoff by time, establishing
TRIGGER, Window Holdoff Md, Holdoff by Time Triggered from Window

Window, trigger holdoff by time or events, adjusting
W, *Bottom knob. Alternate:* TRIGGER, Time Holdoff *or* Events Holdoff, *Bottom knob*

Window, trigger holdoff, removing
TRIGGER, Window Holdoff Md, No Holdoff Triggered from Main

XY Waveform, from two live waveforms
Create and select Y waveform, WAVEFORM, Horizontal Desc, *select X waveform*

XY Waveform, from two stored waveforms
Create and select stored Y waveform, WAVEFORM, Horizontal Desc, *select X stored waveform*

Tektronix 11402A/11403A Alphabetic Command Summary

< >	::=	Defined item
{ }	::=	One item from group required
[ ]	::=	Optional item(s)
( )	::=	Response to a query
|	::=	Exclusive or
FPS	::=	Front Panel Setting
<NR1>	::=	Signed integer
<NR2>	::=	Floating point, no exponent
<NR3>	::=	Floating point with exponent
<NRx>	::=	{*<NR1>* | *<NR2>* | *<NR3>*}
<ui>	::=	Unsigned integer
<curve data>	::=	Tek Codes&Formats binary block data (*<bblock>*) or ASCII data points (*<NR1>*[{,*<NR1>*}...])
<qstring>	::=	Quoted string
?	::=	Query-only header or link

HEAder	Header, link, or argument; minimum spelling in **CAPs**
RESponse	Query response; minimum spelling in CAPs

Commands are set/query unless otherwise noted. Query-only headers are followed by a **?**. Query-only links are indicated with a leading **?**; the argument(s) in parentheses after the colon show the response form. (**Note:** Do not enter the colon when querying a link.)

A–B

ABBwfmpre {**ON**|**OFF**}

ABStouch {**CLE**ar| *<NRx>*,*<NRx>*}

ADJtrace*<ui>* *<link>*:*<arg>*
- **HMA**g: *<NRx>*
- **HPO**sition: *<NRx>*
- **HVP**osition: *<NRx>*
- **HVS**ize: *<NRx>*
- **PAN**zoom: {**ON**|**OFF**}
- **TRS**ep: *<NRx>*
- **VPO**sition: *<NRx>*
- **VSI**ze: *<NRx>*

ALTinkjet *<link>*:*<arg>*
- **DIR**ection: {**HOR**iz|**VER**t}
- **FORM**at: {**DRA**ft|**HIR**es|**RED**uced}
- **POR**t: {**CENTR**onics|**GPI**b|**RS232**}

AUTOSet [*<link>*:]*<arg>*
- **HOR**iz: {**EDG**e|**OFF**|**PER**iod|**PUL**se}
- **STAR**t *(Set-only)*
- **UNDO** *(Set-only)*
- **VER**t: {**ECL**|**PP**|**TTL**|**OFF**}

AVG {**ON**|**OFF**}

BASeline *<NRx>*

BELL

BITMap *<link>*:*<arg>*
- **DATAC**ompress: {**ON**|**OFF**}

DATAFormat: {**BIN**ary|**BINH**ex}
DIRection: {**HOR**iz|**VER**t}
FORMat: {**DIT**hered|**DRA**ft|**HIR**es|**RED**uced|**SCR**een}
PORt: {**CENTR**onics|**GPI**b|**RS232**}

BYT.or {**LSB**|**MSB**}

C

CALProbe <*link*>:<*arg*>
FULl: <*slot*> <*ui*>
SHOrt: <*slot*> <*ui*>

CALStatus?

CCAlconstants <*ui*>: <*NRx*>

CH <*slot*> <*ui*> <*link*>: <*arg*>
AMPoffset: <*NRx*>
BW: <*NRx*>
BWHi: <*NRx*>
BWLo: <*NRx*>
COUpling: {**AC**|**DC**|**VC**|**OFF**}
IMPedance: <*NRx*>
MNSCoupling: {**AC**|**DC**|**VC**|**OFF**}
MNSOffset: <*NRx*>
? **MNSP**robe (<*qstring*>)
OFFSet: <*NRx*>
PLSCoupling: {**AC**|**DC**|**VC**|**OFF**}
PLSOffset: <*NRx*>
? **PLSP**robe (<*qstring*>)
? **PROB**e (<*qstring*>)
PROTect: {**ON**|**OFF**}
SENsitivity: <*NRx*>
? **UNI**ts (<*qstring*>)
VCOffset: <*NRx*>

CLEar {**ALL**| <*qstring*> |**TRA**ce <*ui*>} *(Set-only)*

COLor <*ui*> <*link*>:<*arg*>
DEFAult
HUE: <*NRX*>
LIGhtness: <*NRx*>
SATuration: <*NRx*>

COLor **DEFA**ult

COMpare {**ON**|**OFF**}

CONDacq <*link*>:<*arg*>
FILl: <*NRx*>
? **REMA**ining (<*NR1*>)
TYPe: {**AVG**|**BOT**h|**CONTI**nuous|**ENV**|**FIL**l|**GRAD**ed|
HIST.pt|**MASK** [<*ui*>]|**SIN**gle|**WAV**frm}

CONFig?

COPy [<*link*>:]<*arg*>
ABOrt *(Set-only)*
FORMat: {**DIT**hered|**DRA**ft|**HIR**es|**RED**uced|**SCR**een}
PORt: {**CENTR**onics|**GPI**b|**RS232**}
PRInter: {**ALT**inkjet|**BITM**ap|**HPG**l|**PIN8**|**PIN24**|
TEK4697|**TEK4696**|**TEK4692**}
STARt *(Set-only)*
? **STA**tus ({**IDL**e|**SPO**oling|**PRINTI**ng|**ABORTI**ng})

CPLugin <*qstring*>

CURSor <*link*>:<*arg*>
REAdout: {**ON**|**OFF**}
REFErence: **TRA**ce <*ui*>
TYPe: {**HBA**rs|**PA**ired|**SPL**it|**VBA**rs}
? **XUN**it ({AMPs|DIVS|DEGrees|DBM|HERtz|
OHMs|SEConds|VOLts|WATts})
? **YUN**it ({AMPs|DIVS|DEGrees|DBM|HERtz|
OHMs|VOLts|WATts})

CURVe <*curve data*>

D

DAInt { **SIN**gle | **WHO**le}
DATE *<qstring>* = "*<dd>*-*<mon>*-*<yy>*"
DEBug *<link>*:*<arg>*
  GPIb: {**ON** | **OFF**}
  RS232: {**ON** | **OFF**}
DEF *<qstring>*,*<qstring>* *(Set-only)*
DELAy [*<ui>*]?
DELete [*<link>*:]*<arg>* *(Set-only)*
  {**FPS***<ui>* | *<qstring>* | **STO***<ui>* | **MENU***<id>*}
  ALL: {**FPS** | **MENU** | **STO**}
DIAg?
DIGitizer {**RUN** | **STOP**}
DISPErsion {**PP** | **RMSD**ev}
DISPlay *<link>*:*<arg>*
  C.WINBottom: *<NRx>*
  C.WINLeft: *<NRx>*
  C.WINRight: *<NRx>*
  C.WINTop: *<NRx>*
  D.WINBottom: *<NRx>*
  D.WINLeft: *<NRx>*
  D.WINRight: *<NRx>*
  D.WINTop: *<NRx>*
  ? **DATA** (<curve data>)
  GRADFirst: {**ON** | **OFF**}
  ? **GRADS**cale (*<ui>*)
  GRAticule: {**DUA**l | **SIN**gle}
  INTENsity: *<NRx>*
  MODe: {**DOT**s | **VEC**tors}
  ? **NR.PT** (*<ui>*)
  PERSistence: *<NRx>*
  REFREsh: *<NRx>*
  STATIstics: {**HIST**ogram | **MASK**}
  TYPe: {**GRAD**ed | **INF**inite | **NOR**mal | **VAR**iable}
  ? **XS**ize (*<ui>*)
  ? **YS**ize (*<ui>*)
DISTal *<NRx>*
DLYtrace **TRA**ce*<ui>*
DOT1Abs; **DOT2A**bs *<link>*:*<arg>*
  PCTg: *<NRx>*
  XCOord: *<NRx>*
  XDIv: *<NRx>*
  ? **XQU**al ({EQ | LT | GT | UN})
  ? **YCO**ord (*<NR3>*)
  ? **YDI**v (*<NR3>*)
  ? **YQU**al ({EQ | LT | GT | UN})
DOT1Rel; **DOT2R**el *<link>*:*<arg>* *(Set-only)*
  PCTg: *<NRx>*
  XCOord: *<NRx>*
  XDIv: *<NRx>*
DSYmenu [*<link>*:]*<arg>*
  {**ALL** Wavfrm | **CURS**or | **DISP**lay | **EXTF**eatures |
    MEAS | **STORE** Recall | **TR**igger | **UTILITY1** |
    UTILITY2 | **WAV**frm | <link>:<arg>}
  EXTMenu: {**MENU**<id> | **NONE**}

E–F

ENCdg *<link>*:*<arg>*
  DISPlay: {**ASC**ii | **BIN**ary}
  HISTogram: {**ASC**ii | **BIN**ary}
  SET: {**ASC**ii | **BIN**ary}
  WAVfrm: {**ASC**ii | **BIN**ary}
ENV {**ON** | **OFF**}

EVENT?

FEOI *(Set-only)*

FFT <*link*>:<*arg*>
  FORMat: {**DBM**|**LIN**ear}
  WINDow: {**BLA**ckman|**BLH**arris|**HAM**ming|**HAN**ning|**RECT**angular|**TRI**Angular}

FPAnel {**ON**|**OFF**}

FPSList?

FPSNum?

FPUpdate {**ALW**ays|**EMP**ty|**NEV**er}

H – I

H1Bar; **H2B**ar <*link*>:<*arg*>
  YCOord: <*NRx*>
  YDiv: <*NRx*>

HISTogram {**CLE**ar|<link>:<arg>}
  C.WINBottom: <*NRx*>
  C.WINLeft: <*NRx*>
  C.WINRight: <*NRx*>
  C.WINTop: <*NRx*>
  D.WINBottom: <*NRx*>
  D.WINLeft: <*NRx*>
  D.WINRight: <*NRx*>
  D.WINTop: <*NRx*>
  ? DATA (<curve data>)
  HISTScaling: {**LIN**ear|**LOG10**}
  ? NR.pt (<*ui*>)
  TYPe: {**HOR**iz|**NON**e|**VER**t}

HNUmber <*NR1*>

HPGl <*link*>: <*arg*>
  COLor<*ui*>: <*NRx*>
  COLor: **DEFA**ult
  FORMat: {**DRA**ft|**HIR**es|**SCR**een}
  PORt: {**CENTR**onics|**GPI**b|**RS232**}

ID?

IDProbe?

INIt *(Set-only)*

INPut {**STO**<*ui*>|<*qstring*>}

J – L

JITter [<*ui*>]?

JITT.histpt?

JITTLEvel?

JITTLOcation {**CRO**ss|**MES**ial}

KBAssign {<*link*>:<*arg*>}
  GRANularity: {**COA**rse|**FINE**|**MED**ium}
  LOWer: <*NRx*>
  UPPer: <*NRx*>

LABAbs <*link*>: <*arg*>
  PCTg: <*NRx*>
  XCOord: <*NRx*>
  YDiv: <*NRx*>

LABel <*link*>:<*arg*>
  DELete: {**ALL**|**FPS**[<*ui*>]|<*qstring*>|**STO**[<*ui*>]|**TRA**ce[<*ui*>]} *(Set-only)*
  DISPlay: {**ON**|**OFF**}
  FPS<*ui*>: <*qstring*>
  STO<*ui*>: <*qstring*>
  TRAce<*ui*>: <*qstring*>

LABRel <*link*>:<*arg*> *(Set-only)*
  PCTg: <*NRx*> *(Set-only)*
  XCOord: <*NRx*> *(Set-only)*
  YDiv: <*NRx*> *(Set-only)*

LCAlconstants <*ui*>:<*NRx*>
LMZone <*NRx*>
LONgform {**ON**|**OFF**}
LPLugin <*qstring*>

M

MAINPos <*NRx*>
MASK<*ui*> {**DEL**ete|<*link*>:<*arg*>}
  C.Points: <*xcoord*>,<*ycoord*> [,<*xcoord*>, <*ycoord*>. . .]
  D.Points: <*xcoord*>,<*ycoord*> [,<*xcoord*>, <*ycoord*>. . .]
  ? **NCO**unt (<*ui*>)
  ? **NR.**pt (<ui>)
MASKStat {**CLE**ar|<*link*>:<*arg*>}
  COUnt: {**OFF**|**ON**}
  ? **NWF**m (<*ui*>)
  ? **TOT**al (<*ui*>)
MCAlconstants <*ui*>:<*NRx*>
MEAS?
<*meas*>**?**
<*meas*> ::= ({**AMPL**itude|**CRO**ss|**DELA**y|**DUT**y| **EXT**inction|**FAL**ltime|**FRE**q|**JIT**ter|**GA**In|**MAX**| **MEAN**|**MID**|**MIN**|**NO**ise|**OVE**rshoot|**PDE**lay| **PER**iod|**PHA**se|**PP**|**RIS**etime|**RMS**|**SFR**equency| **SKE**w|**SMA**gnitude|**THD**|**TTR**ig|**UND**ershoot| **WID**th|**YTE**nergy|**YTM**ns_area|**YTP**ls_area})
MEDge
MENTouch?
MENU<*id*><*link*>:<*arg*>
  ATTach: {**NON**e|<*ui*>}
  LABel: <*qstring*>
  MODe: {**HIGH**light|**OFF**|**SEL**ect|**UNSEL**ect}
  POPPos: {**DEFA**ult|<*ui*>}
MESial <*NRx*>
MHLimit <*meas*>[<*ui*>]:<*NRx*>
MLEvel {**ABSO**lute|**BASED**elta|**REL**ative|**TOPD**elta}
MLLimit <*meas*>[<*ui*>]:<*NRx*>
MSCount <*NRx*>
MSList {**EMP**ty|<*meas*>[<*ui*>][, <*meas*>[<*ui*>]...]}
MSLOpe {**PLU**s|**MINU**s}
MS<*meas*>[<*ui*>]**?**
MSNum?
MSTat?
MSYs {**ON**|**OFF**}
MSTat?
MTIme {**ABSO**lute|**REL**ative}
MTRack {**BAS**eline|**BOT**h|**ON**|**OFF**|**TOP**line}

N – O

NAVg <*NRx*>
NEDge
NENV <*NRx*>
NGRAded <*NRx*>
NHISt.pt <*NRx*>
NMAsk <*NRx*>
NOIS.histpt?
NOISLocation {**BAS**eline|**TOP**line}

NVRam?
NWAVfrm <NRx>
OUTput {STO<ui>|TRAce<ui>|<qstring>}

P

PATh {ON|OFF}
PFResult?
PFTest {OFF|ON}
PIN8; PIN24 <link>: <arg>
FORMat: {DRAft|HIRes|REDuced}
PORt: {CENTRonics|GPIb|RS232}
PINdex <ui>
PIVersion?
POWeron?
PROBe {NT|NTAuto|SETSeq}
PROXimal <NRx>
PZMode <link>:<arg>
MULtitrace:{ON|OFF}
PIVOt:{CENter|LEFt|RIGht|TRIgger}

R

RCAlconstants <ui>: <NRx>
RECall { FPNext|FPS<ui>|<qstring>} *(Set-only)*
REFLevel <NRx>
REFset <link>:<arg>
CURRent: <meas>[<ui>] *(Set-only)*
<meas>[<ui>]: <NRx>
REFTrace TRAce<ui>
REMove {ALL|<qstring>|TRAce<ui>} *(Set-only)*
RMZone <NRx>
RPLugin <qstring>
RQS {ON | OFF}
RS232 <link>:<arg>
BAUd: <NRx>
DELAy: <NRx>
ECHo: {ON|OFF}
EOL: {CR|CRLf|LF|LFCr}
FLAgging: {SOFt|HARd|OFF}
PARity: {ODD|EVEN|NONe}
STOPBits: <NRx>
VERBose: {ON|OFF}

S

SELect {TRAce<ui>|<qstring>}
SELFcal {FORce|<link>:<arg>}
MODe: {AUTO|MANual}
SET
SET?
SETSeq {ON|OFF}
SHIlo
SMOde {HARmonic|PEAK}
SNRatio <NRx>
SPEaker {ON|OFF}
SRQMask <link>:<arg>
ABStouch: {ON|OFF}
CALDue:{ON|OFF}
CMDerr:{ON|OFF}
EXErr:{ON|OFF}

EXWarn:{ON|OFF}
IDProbe:{ON|OFF}
INErr:{ON|OFF}
INWarn:{ON|OFF}
OPCmpl:{ON|OFF}
MENTouch:{OFF|ON}
USEr:{ON|OFF}

STATHist? [{HIST.pt|MEAN|NWFm|PP|RMSDev|SIGMA1|SIGMA2|SIGMA3}]

STATIstics {ON|OFF}

STByte?

STOList?

STONum?

STORe {FPS<ui>|<link>:<arg>} *(Set-only)*
TRAce<ui>: {STO<ui>|<qstring>}
<qstring>:STO<ui>

SUB<id><ui> <link>:<arg>
LABel: <qstring>
MODe: {HIGHlight|OFF|ON|SELect|UNSELect}
TYPe: {BOX|RULe|TEXt}
X:<ui>
XLEN:<ui>
Y:<ui>
YLEN:<ui>

SUBLEN<id>?

T

TBMain; TBWin <link>:<arg>
LENgth: <NRx>
TIMe: <NRx>
? XINcr (<NR3>)

TEK4692 <link>: <arg>
COLor{ : DEFAult| <ui>:<NRx> }
DIRection: {HORiz|VERt}
FORMat: {DIThered|DRAft|HIRes|SCReen}
PORt: {CENTRonics|GPIb|RS232}

TEK4696; TEK4697 <link>: <arg>
COLor{ : DEFAult| <ui>:<NRx> }
DIRection: {HORiz|VERt}
FORMat: {DIThered|DRAft|HIRes|REDuced|SCReen}
PORt: {CENTRonics|GPIb|RS232}

TESt [XTNd] *(Set-only)*

TEXt {CLEar|<link>:<arg>} *(Set-only)*
STRing: <qstring>
X: <ui>
Y: <ui>

THD[<ui>]?

TIMe <qstring> = "<hh>:<mm>:<ss>"

TOPline <NRx>

TR?

TRAce<ui> <link>:<arg>
ACCumulate:{ON|OFF}
? ACSstate ({ENHanced|NENHanced})
DEScription:<qstring>
GRLocation:{UPPer|LOWer}
GRType: {LINear}
? WFMCalc ({FASt| HIPrec})
? XUNit ({AMPs|DBM|DEGrees|DIVS|HERtz|OHMs|SEConds|VOLts|WATts})
? YUNit ({AMPs|DBM|DEGrees|DIVS|HERtz|OHMs|SEConds|VOLts|WATts})

TRAce[<ui>]?

TRANUm?

TRMain <link>:<arg>

ALEvel: *<NRx>*
ANLevel: *<NRx>*,{**VOL**ts|**DIVS**}
COUpling:{**AC**|**ACL**f|**ACH**f|**ACN**oise|**DC**|**DCH**f|**DCN**oise|**HI**bw}
MODe:{**AUTO**|**AUTOL**evel|**NOR**mal}
SLOpe:{**PLU**s|**MINU**s}
SOUrce:*<qstring>*
? STAtus ({TRG|NOTrg})
TIHoldoff:*<NRx>*

TRWin *<link>*:*<arg>*
ALEvel:*<NRx>*
COUpling:{**AC**|**ACL**f|**ACH**f|**ACN**oise|**DC**|**DCH**f|**DCN**oise|**HI**bw}
EVHoldoff:*<NRx>*
MODe:{**AUTOL**evel|**NOR**mal}
NLEvel:*<NRx>*,{**VOL**ts|**DIVS**}
SLOpe:{**PLU**s|**MINU**s}
SOUrce:*<qstring>*
? STAtus ({TRG|NOTrg})
TIHoldoff:*<NRx>*

TTAverage *<NRx>*

TTRig[*<ui>*]**?**

U – V

UID *<link>*:*<arg>*
CENter:*<qstring>*
LEFt:*<qstring>*
MAIn:*<qstring>*
RIGht:*<qstring>*

UNDEF {*<qstring>*|**ALL**} *(Set-only)*

UPTime**?**

V1Bar; **V2B**ar *<link>*:*<arg>*
XCOord: *<NRx>*
XDIv: *<NRx>*

W

WAVfrm**?**

WFMpre *<link>*: *<arg>*
ACState: {**ENH**anced|**NENH**anced}
? BIT/nr (16)
? BN.fmt (RI)
? BYT/nr (2)
? BYT.or ({LSB|MSB})
? CRVchk ({CHKsm0|NONe|NULl})
DATE: *<qstring>*
? ENCdg ({ASCii|BINary})
LABel: *<qstring>*
NR.pt: {512|1024|2048|4096|5120|8192|10240}
? PT.fmt ({ENV|Y|XY})
TIMe: *<qstring>*
? WFId ({STO*<ui>*|TRAce*<ui>*})
XINcr: *<NRx>*
? XMUlt (*<NR3>*)
? XUNit ({AMPS|DBM|DEGrees|DIVS|HERtz|OHMs|SEConds|VOLts|WATts})
XZEro: *<NRx>*
YMUlt: *<NRx>*
YUNit: {**AMPS**|**DBM**|**DEG**rees|**DIVS**|**HER**tz|**OHM**s|**SEC**onds|**VOL**ts|**WAT**ts}
YZEro: *<NRx>*

WFMScaling {**FORC**e|**OPT**ional}

WIN1Pos *<NRx>*

WIN2Pos *<NRx>*

WTMode {**MAI**n|**EVH**oldoff|**TIH**oldoff}

Tektronix 11402A/11403A Functional Command Summary

< >	::= Defined item
{ }	::= One item from group required
[ ]	::= Optional item(s)
( )	::= Response to a query
|	::= Exclusive or
FPS	::= Front Panel Setting
<NR1>	::= Signed integer
<NR2>	::= Floating point, no exponent
<NR3>	::= Floating point with exponent
<NRx>	::= {*<NR1>* | *<NR2>* | *<NR3>*}
<ui>	::= Unsigned integer
<curve data>	::= Tek Codes&Formats binary block data (*<bblock>*) or ASCII data points (*<NR1>*[{,*<NR1>*}...])
<qstring>	::= Quoted string
?	::= Query-only header or link

HEAder	Header, link, or argument; minimum spelling in **CAP**s; links followed by **:**
RESponse	Query response; minimum spelling in CAPs

Commands are set/query unless otherwise noted. Query-only headers are followed by a **?**. Query-only links are indicated with a leading **?**; the argument(s) in parentheses after the colon show the response form. (**Note:** Do not enter the colon when querying a link.)

Acquisition Commands

AUTOSet [*<link>*:]*<arg>*
- **HOR**iz: {**EDG**e|**OFF**|**PER**iod|**PUL**se}
- **STAR**t
- **UNDO** *(Set-only)*
- **VER**t: {**ECL**|**PP**|**TTL**|**OFF**} *(Set-only)*

AVG {**ON**|**OFF**}

CONDacq *<link>*:*<arg>*
- **FIL**l: *<NRx>*
- **? REMA**ining (*<NR1>*)
- **TYP**e: {**AVG**|**BOT**h|**CONT**Inuous|**ENV**|**FIL**l|**GRAD**ed|**HIST**.pt|**MASK**[<ui>]**SIN**gle}

DIGitizer {**RUN**|**STOP**}

ENV {**ON**|**OFF**}

FFT *<link>*:*<arg>*
- **FORM**at: {**DBM**|**LIN**ear}
- **WIND**ow: {**BLA**ckman|**BLH**arris|**HAM**ming|**HAN**ning|**RECT**angular|**TRI**Angular}

NAVg *<NRx>*

NENV *<NRx>*

NGRAded *<NRx>*

NHISt.pt *<NRx>*

NMAsk *<NRx>*

NWAVfrm <NRx>

Calibration Commands

- **CALP**robe <*link*>:<*arg*>
  - **FULl**: <*slot*> <*ui*>
  - **SHO**rt: <*slot*> <*ui*>
- **CALS**tatus?
- **CCA**lconstants <*ui*>:<*NRx*>
- **LCA**lconstants <*ui*>:<*NRx*>
- **MCA**lconstants <*ui*>:<*NRx*>
- **RCA**lconstants <*ui*>:<*NRx*>
- **SELF**cal {**FOR**ce | <*link*>:<*arg*>}
  - **MOD**e: {**AUTO** | **MAN**ual}

Channel/Vertical Commands

- **CH** <*slot*> <*ui*> <*link*>:<*arg*>
  - **AMP**offset: <*NRx*>
  - **BW**: <*NRx*>
  - **BWHi**: <*NRx*>
  - **BWL**o: <*NRx*>
  - **COU**pling: {**AC** | **DC** | **OFF** | **VC**}
  - **IMP**edance: <*NRx*>
  - **MNSC**oupling: {**AC** | **DC** | **VC** | **OFF**}
  - **MNSO**ffset: <*NRx*>
  - ? **MNSP**robe (<*qstring*>)
  - **OFFS**et: <*NRx*>
  - **PLSC**oupling: {**AC** | **DC** | **VC** | **OFF**}
  - **PLSO**ffset: <*NRx*>
  - ? **PLSP**robe (<*qstring*>)
  - ? **PROB**e (<*qstring*>)
  - **PROT**ect: {**ON** | **OFF**}
  - **SEN**sitivity: <*NRx*>
  - ? **UNI**ts (<*qstring*>)
  - **VCO**ffset: <*NRx*>
- **CPL**ugin <*qstring*>
- **LPL**lugin <*qstring*>
- **RPL**ugin <*qstring*>

Cursor Commands

- **CURS**or <*link*>:<*arg*>
  - **REA**dout: {**ON** | **OFF**}
  - **REFE**rence: **TRA**ce <*ui*>
  - **TYP**e: {**HBA**rs | **PAI**red | **SPL**it | **VBA**rs}
  - ? **XUN**it ({AMPs | DIVS | DEGrees | DBM | HERtz | OHMs | SEConds | VOLts | WATts})
  - ? **YUN**it ({AMPs | DIVS | DEGrees | DBM | HERtz | OHMs | SEConds | VOLts | WATts})
- **DOT1A**bs; **DOT2A**bs <*link*>:<*arg*>
  - **PCT**g: <*NRx*>
  - **XCO**ord: <*NRx*>
  - **XDI**v: <*NRx*>
  - ? **XQU**al ({EQ | LT | GT | UN})
  - ? **YCO**ord (<*NR3*>)
  - ? **YDI**v (<*NR3*>)
  - ? **YQU**al ({EQ | LT | GT | UN})
- **DOT1R**el; **DOT2R**el <*link*>:<*arg*> *(Set-only)*
  - **PCT**g: <*NRx*>
  - **XCO**ord: <*NRx*>
  - **XDI**v: <*NRx*>
- **H1B**ar; **H2B**ar <*link*>:<*arg*>
  - **YCO**ord: <*NRx*>
  - **YDI**v: <*NRx*>
- **V1B**ar; **V2B**ar <*link*>:<*arg*>
  - **XCO**ord: <*NRx*>
  - **XDI**v: <*NRx*>

Data Transfer Commands

ABBwfmpre {**ON**|**OFF**}
BYT.or {**LSB**|**MSB**}
CURVe <*curve data*>
ENCdg <*link*>:<*arg*>
- **DISP**lay: {**ASC**ii|**BIN**ary}
- **HIST**ogram: {**ASC**ii|**BIN**ary}
- **SET**: {**ASC**ii|**BIN**ary}
- **WAV**frm: {**ASC**ii|**BIN**ary}

HISTogram {**CLE**ar| <link>:<arg>}
- **C.WINB**ottom: <*NRx*>
- **C.WINL**eft: <*NRx*>
- **C.WINR**ight: <*NRx*>
- **C.WINT**op: <*NRx*>
- **D.WINB**ottom: <*NRx*>
- **D.WINL**eft: <*NRx*>
- **D.WINR**ight: <*NRx*>
- **D.WINT**op: <*NRx*>
- ? **DATA** (<curve data>)
- **HISTS**caling: {**LIN**ear|**LOG10**}
- ? **NR**.pt (<*ui*>)
- **TYP**e: {**HOR**iz|**NON**e|**VER**t}

INPut {**STO**<*ui*>|<*qstring*>}
OUTput {**STO**<*ui*>| **TRA**ce<*ui*>|<*qstring*>}
SET <*bblock*>
SET?
WAVfrm**?**
WFMpre <*link*>: <*arg*>
- **ACS**tate: {**ENH**anced|**NEN**hanced}
- ? **BIT**/nr (16)
- ? **BN**.fmt (RI)
- ? **BYT**/nr (2)
- ? **BYT**.or ({LSB|MSB})
- ? **CRV**chk ({CHKsm0|NONe|NULl})
- **DATE:** <*qstring*>
- ? **ENC**dg ({ASCii|BINary})
- **LAB**el: <*qstring*>
- **NR**.pt: {512|1024|2048|4096|5120|8192|10240}
- ? **PT**.fmt ({ENV|Y|XY})
- **TIM**e: <*qstring*>
- ? **WFI**d ({STO<*ui*>|TRAce<*ui*>})
- **XIN**cr: <*NRx*>
- ? **XMU**lt (<*NR3*>)
- ? **XUN**it ({AMPS|DBM|DEGrees|DIVS|HERtz| OHMs|SEConds|VOLts|WATts})
- **XZE**ro: <*NRx*>
- **YMU**lt: <*NRx*>
- **YUN**it: {**AMPS**|**DBM**|**DEG**rees|**DIVS**|**HER**tz| **OHM**s|**SEC**onds|**VOL**ts|**WAT**ts}
- **YZE**ro: <*NRx*>

Diagnostic Commands

DIAg**?**
TESt [**XTN**d] *(Set-only)*

Display and Color Commands

BELL
COLor<*ui*> <*link*>:<*arg*>
- **DEFA**ult
- **HUE:**<*NRX*>
- **LIG**htness:<*NRx*>
- **SAT**uration:<*NRx*>

COLor **DEFA**ult

DISPlay <*link*>:<*arg*>
  C.WINBottom: <*NRx*>
  C.WINLeft: <*NRx*>
  C.WINRight: <*NRx*>
  C.WINTop: <*NRx*>
  D.WINBottom: <*NRx*>
  D.WINLeft: <*NRx*>
  D.WINRight: <*NRx*>
  D.WINTop: <*NRx*>
  ? DATA (<curve data>)
  GRADFirst: {**ON**|**OFF**}
  ? GRADScale (<*ui*>)
  GRAticule: {**DUA**l|**SIN**gle}
  INTENsity: <*NRx*>
  MODe: {**DOT**s|**VEC**tors}
  ? NR.PT (<*ui*>)
  PERSistence: <*NRx*>
  REFREsh: <*NRx*>
  STATIstics: {**HIST**ogram|**MASK**}
  TYPe: {**GRA**Ded|**INF**inite|**NOR**mal|**VAR**iable}
  ? XSize (<*ui*>)
  ? YSize (<*ui*>)

HISTogram {**CLE**ar|<link>:<arg>}
  C.WINBottom: <*NRx*>
  C.WINLeft: <*NRx*>
  C.WINRight: <*NRx*>
  C.WINTop: <*NRx*>
  D.WINBottom: <*NRx*>
  D.WINLeft: <*NRx*>
  D.WINRight: <*NRx*>
  D.WINTop: <*NRx*>
  ? DATA (<curve data>)
  HISTScaling: {**LIN**ear|**LOG10**}
  ? NR.pt (<*ui*>)
  TYPe: {**HOR**iz|**NON**e|**VER**t}

KBAssign {<*link*>:<*arg*>}
  GRANularity: {**COA**rse|**FINE**|**MEDI**um}
  LOWer: <*NRx*>
  UPPer: <*NRx*>

MENTouch?

MENU <*id*> <*link*>:<*arg*>
  ATTach: {**NON**e|<*ui*>}
  LABel: <*qstring*>
  MODe: {**HIGH**light|**OFF**|**SEL**ect|**UNSEL**ect}
  POPPos: {**DEFA**ult|<*ui*>}

STATHist? [{**HIST**.pt|**MEAN**|**NWF**m|**PP**|**RMSD**ev|
  SIGMA1|**SIGMA2**|**SIGMA3**}]

SUB <*id*> <*ui*> <*link*>:<*arg*>
  LABel: <*qstring*>
  MODe: {**HIGH**light|**OFF**|**ON**|**SEL**ect|**UNSEL**ect}
  TYPe: {**BOX**|**RUL**e|**TEX**t}
  X: <*ui*>
  XLEN: <*ui*>
  Y: <*ui*>
  YLEN: <*ui*>

SUBLEN <*id*>?

External I/O Commands

ALTinkjet <*link*>:<*arg*>
  DIRection: {**HOR**iz|**VER**t}
  FORMat: {**DRA**ft|**HIR**es|**RED**uced}
  PORt: {**CENT**ronics|**GPI**b|**RS232**}

BITMap <*link*>:<*arg*>
  DATACompress: {**ON**|**OFF**}
  DATAFormat: {**BIN**ary|**BINH**ex}
  DIRection: {**HOR**iz|**VER**t}
  FORMat: {**DIT**hered|**DRA**ft|**HIR**es|**RED**uced|**SCR**een}
  PORt: {**CENT**ronics|**GPI**b|**RS232**}

External I/O Commands (Cont.)

COPy [<link>:]<arg>
ABOrt *(Set-only)*
FORMat: {DIThered|DRAft|HIRes|REDuced|SCReen}
PRInter: {ALTinkjet|BITMap|HPGl|PIN8|PIN24|TEK4692|TEK4696|TEK4697}
STARt *(Set-only)*

DEBug <link>:<arg>
GPIb: {ON|OFF}
RS232: {ON|OFF}

HPGl <link>:<arg>
COLor<ui>: NRx>
COLor: DEFAult
FORMat: {DRAft|HIRes|SCReen}
PORt: {CENTronics|GPIb|RS232}

PIN8; PIN24 <link>:<arg>
FORMat: {DRAft|HIRes|REDuced}
PORt: {CENTRonics|GPIb|RS232}

RS232 <link>:<arg>
BAUd:<NRx>
DELAy:<NRx>
ECHo: {ON|OFF}
EOL:{CR | CRLf| LF| LFCr}
FLAgging:{SOFt| HARd| OFF}
PARity:{ODD| EVEN| NONe}
STOPBits:<NRx>
VERBose:{ON|OFF}

TEK4692 <link>:<arg>
COLor<ui>: <NRx>
COLor: DEFAult
DIRection: {HORiz|VERt}
FORMat: {DIThered|DRAft|HIRes|SCReen}
PORt: {CENTronics|GPIb|RS232}

TEK4696; TEK4697 <link>:<arg>
COLor<ui>: NRx>
COLor: DEFAult
DIRection: {HORiz|VERt}
FORMat: {DIThered|DRAft|HIRes|REDuced|SCReen}
PORt: {CENTronics|GPIb|RS232}

Label and Text Commands

LABABS <link>:<arg>
PCTg:<NRx>
XCOord:<NRx>
YDIv:<NRx>

LABel <link>:<arg>
DELete:{ALL|FPS[<ui>]|<qstring>|STO[<ui>]|TRAce[<ui>]} *(Set-only)*
DISPlay:{ON|OFF}
FPS<ui>:<qstring>
STO<ui>:<qstring>
TRAce<ui>:<qstring>

LABREL <link>:<arg> *(Set-only)*
PCTg:<NRx>
XCOord:<NRx>
YDIv:<NRx>

TEXt {CLEar|<link>:<arg>} *(Set-only)*
STRing:<qstring> *(Set-only)*
X:<ui>
Y:<ui>

Measurement Commands

BASeline <NRx>
COMpare {ON|OFF}

DAInt {WHOle | SINgle}
DISPErsion {PP|RMSDev}
DISTal <NRx>
DLYtrace TRAce<ui>
HNUmber <NR1>
JITT.histpt?
JITTLEvel?
JITTLOcation {CROss|MESial}
LMZone <NRx>
MEAS?
<meas>?
<meas> ::= ({AMPLitude|CROss|DELAy|DUTy|
EXTinction|FALltime|FREq|JITter|GAIn|MAX|
MEAN|MID|MIN|NOIse|OVErshoot|PDElay|
PERiod|PHAse|PP|RISetime|RMS|SFRequency|
SKEw|SMAgnitude|THD|TTRig|UNDershoot|
WIDth|YTEnergy|YTMns_area|YTPls_area})
MEDge
MESial <NRx>
MLEvel {ABSOlute|BASEDelta|RELative|TOPDelta}
MHLimit <meas>[<ui>]:<NRx>
MLEvel {ABSOlute|BASEDelta|RELative|TOPDelta}
MLLimit <meas>[<ui>]:<NRx>
MSCount <NRx>
MSLIst {EMPty|<meas>[<ui>][,<meas>[<ui>]...]}
MSLOpe {PLUs|MINUs}
MS<meas>?
MSNum?
MSTat?
MSYs {ON|OFF}
MTIme {ABSOlute|RELative}
MTRack {BASeline|BOTh|OFF|ON|TOPline}
NEDge
NOIS.histpt?
NOISLocation {BASeline|TOPline}
PFResult?
PFTest {OFF|ON}
PINdex <ui>
PROXimal <NRx>
REFLevel <NRx>
REFset <link>:<arg>
CURRent: <meas>[<ui>] (Set-only)
<meas>[<ui>]: <NRx>
REFTrace TRAce<ui>
RMZone <NRx>
SHIlo
SMOde {HARmonic|PEAK}
SNRatio <NRx>
STATIstics {ON|OFF}
TOPline <NRx>
TTAverage <NRx>

Miscellaneous/System Commands

ABStouch {CLEar | <NRx>,<NRx>}
DATE <qstring> = "<dd>-<mon>-<yy>"
DEF <qstring>,<qstring> (Set-only)
DSYmenu [<link>:]<arg>
{ALL_Wavfrm|CURSor|DISPlay|EXTFeatures|
MEAS|STORE_Recall|TRIgger|UTILITY1|
UTILITY2|WAVfrm|<link>:<arg>}
EXTMenu: {MENU<id>|NONE}

FEOI *(Set-only)*

FPAnel {ON|OFF}

FPUpdate {ALWays|EMPty|NEVer}

INIt *(Set-only)*

LONgform {ON|OFF}

PATh {ON|OFF}

POWeron?

PROBe {NT| NTAuto|SETSeq}

SPEaker {ON|OFF}

TIMe <*qstring*> = "<hh>:<mm>:<ss>"

UNDEF {<*qstring*>|ALL} *(Set-only)*

UPTime?

Status and Event Commands

CONFig?

EVENT?

ID?

IDProbe?

PIVersion?

RQS {ON|OFF}

SRQMask <*link*>:<*arg*>
- ABStouch: {ON|OFF}
- CALDue:{ON|OFF}
- CMDerr:{ON|OFF}
- EXErr:{ON|OFF}
- EXWarn:{ON|OFF}
- IDProbe:{ON|OFF}
- INErr:{ON|OFF}
- INWarn:{ON|OFF}
- MENTouch:{ON|OFF}
- OPCmpl:{ON|OFF}
- USEr:{ON|OFF}

STByte?

UID <*link*>:<*arg*>
- CENter: <*qstring*>
- LEFt: <*qstring*>
- MAIn: <*qstring*>
- RIGht: <*qstring*>

Time Base/Horizontal Commands

MAINPos <*NRx*>

TBMain; TBWin <*link*>:<*arg*>
- LENgth:<*NRx*>
- TIMe:<*NRx*>
- ? XINcr (<*NR3*>)

WIN1Pos <*NRx*>

WIN2Pos <*NRx*>

Triggering Commands

TR?

TRMain <*link*>:<*arg*>
- ALEvel:<*NRx*>
- ANLevel:<*NRx*>,{VOLts|DIVS}
- COUpling:{AC|ACLf|ACHf|ACNoise|DC|DCHf|DCNoise|HIbw}
- MODe:{AUTO|AUTOLevel|NORmal}
- SLOpe:{PLUs|MINUs}
- SOUrce:<*qstring*>
- ? STAtus ({TRG|NOTrg})
- TIHoldoff:<*NRx*>

TRWin <*link*>:<*arg*>
- ALEvel:<*NRx*>

Escape Character Set

Bits B8 B7 B6 B5 / B4 B3 B2 B1	1 ø ø ø	1 ø ø 1	1 ø 1 ø	1 ø 1 1	1 1 ø ø	1 1 ø 1	1 1 1 1	1 ø ø ø
ø ø ø ø	0 Ä 0 0	20 Ñ 10 16	40 User Index 1 20 32	60 30 48	100 Π 40 64	120 π 50 80	140 ↓ 60 96	160 … 70 112
ø ø ø 1	1 ä 1 1	21 ñ 11 17	41 User Index 2 21 33	61 31 49	101 α 41 65	121 θ 51 81	141 ↑ 61 97	161 Ä 71 113
ø ø 1 ø	2 Ö 2 2	22 ¿ 12 18	42 User Index 3 22 34	62 32 50	102 γ 42 66	122 ρ 52 82	142 → 62 98	162 [E] 72 114
ø ø 1 1	3 ö 3 3	23 ¡ 13 19	43 User Index 4 23 35	63 33 51	103 δ 43 67	123 Σ 53 83	143 ← 63 99	163 [R] 73 115
ø 1 ø ø	4 Ü 4 4	24 Ã 14 20	44 User Index 5 24 36	64 34 52	104 Δ 44 68	124 τ 54 84	144 ∫ 64 100	164 [T] 74 116
ø 1 ø 1	5 ü 5 5	25 ã 15 21	45 User Index 6 25 37	65 35 53	105 ε 45 69	125 ν 55 85	145 ÷ 65 101	165 ┘ 75 117
ø 1 1 ø	6 à 6 6	26 À 16 22	46 User Index 7 26 38	66 36 54	106 φ 46 70	126 ν 56 86	146 ° 66 102	166 ┐ 76 118
ø 1 1 1	7 è 7 7	27 Õ 17 23	47 27 39	67 37 55	107 Γ 47 71	127 ω 57 87	147 √ 67 103	167 ┌ 77 119
1 ø ø ø	10 á 8 8	30 õ 18 24	50 28 40	70 38 56	110 Θ 48 72	130 χ 58 88	150 ¬ 68 104	170 └ 78 120
1 ø ø 1	11 é 9 9	31 É 19 25	51 29 41	71 39 57	111 ι 49 73	131 ξ 59 89	151 ± 69 105	171 ┼ 79 121
1 ø 1 ø	12 Å A 10	32 Ø 1A 26	52 2A 42	72 3A 58	112 ψ 4A 74	132 ζ 5A 90	152 ≠ 6A 106	172 ─ 7A 122
1 ø 1 1	13 å B 11	33 ø 1B 27	53 2B 43	73 3B 59	113 κ 4B 75	133 Φ 5B 91	153 ≤ 6B 107	173 ├ 7B 123
1 1 ø ø	14 Æ C 12	34 Œ 1C 28	54 2C 44	74 3C 60	114 λ 4C 76	134 Λ 5C 92	154 ≥ 6C 108	174 ┤ 7C 124
1 1 ø 1	15 æ D 13	35 œ 1D 29	55 2D 45	75 3D 61	115 μ 4D 77	135 Ψ 5D 93	155 © 6D 109	175 ┴ 7D 125
1 1 1 ø	16 ç E 14	36 Ç 1E 30	56 2E 46	76 3E 62	116 η 4E 78	136 σ 5E 94	156 ® 6E 110	176 ┬ 7E 126
1 1 1 1	17 β F 15	37 ∞ 1F 31	57 2F 47	77 3F 63	117 Ω 4F 79	137 Ξ 5F 95	157 ≈ 6F 111	177 │ 7F 127

Key

Octal	17 β	Escape character
Hex	F 15	Decimal